

# Annual Benchmark Report for Wholesale Trade

*A Detailed Summary for Wholesale Sales,  
Inventories, and Purchases*

*January  
1989  
to May  
1999*

Issued August 1999

BW/98-A

## Current Business Reports



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*January  
1989  
to May  
1999*

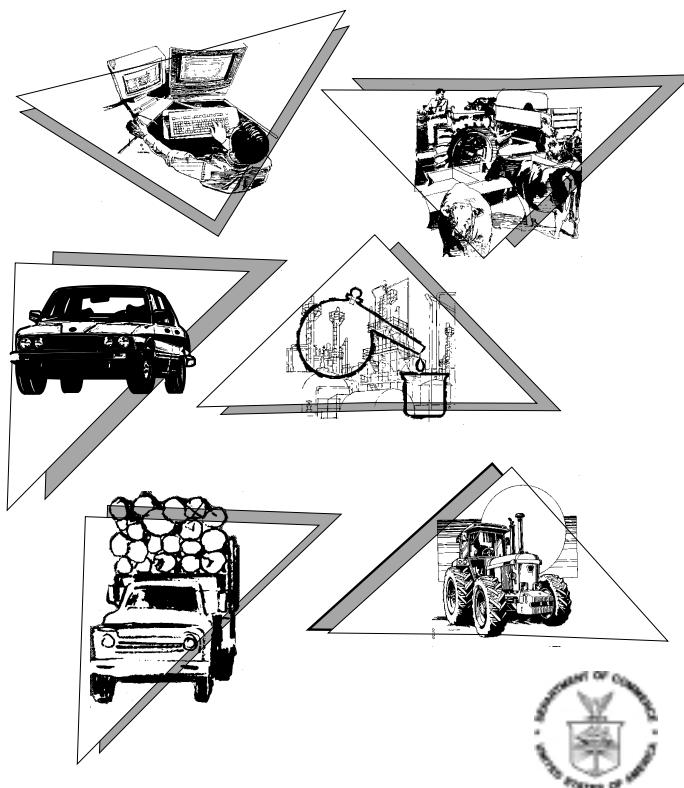
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# Annual Benchmark Report for Wholesale Trade: January 1989 to May 1999

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## COVERAGE

This publication presents the results of a benchmarking operation that revised estimates of monthly sales and end-of-month inventories for all merchant wholesalers in the United States. New 1997 annual estimates of sales, purchases, end-of-year inventories and gross margin levels are also shown in this report.

## SUMMARY OF CHANGES

Unadjusted estimates of monthly sales and end-of-month inventories were revised for January 1993 through May 1999. The revised unadjusted estimates reflect the preliminary results of the 1997 Census of Wholesale Trade and new annual estimates (sales, inventories, and purchases) for 1993 through 1996.

New factors, used to adjust sales for seasonal and trading-day variations, and to adjust inventories for seasonal variations, were developed and used to adjust sales and inventories for January 1990 through May 1999. These factors were developed by using unadjusted estimates as input to the seasonal adjustment program. Adjusted estimates were derived beginning January 1990 instead of January 1993 because the revised 1993 unadjusted estimates can affect the computation of seasonal factors as far back as 1990.

The revision procedures were applied to specific detailed sales and inventory series. All other sales and inventory series were obtained by summing appropriate detail level estimates, thereby assuring additivity.

## REVISIONS TO PREVIOUSLY PUBLISHED DATA

### Annual Estimates

Annual estimates of sales, inventories, and purchases for 1993 through 1997 were adjusted to results of the 1992 and 1997 Census of Wholesale Trade.<sup>1</sup> The 1993 through 1997 annual estimates of sales, inventories, and purchases were input to the benchmarking program and

revised to (1) equate the 1997 annual estimates to *preliminary* results of the 1997 Census of Wholesale Trade,<sup>2,3</sup> (2) link the series to the 1992 Census of Wholesale Trade level, and (3) maintain as best as possible, the year-to-year trends of the previously published annual estimates for 1993 through 1997.

### Monthly Sales

For December 1992 through May 1999, merchant wholesale sales estimates, computed directly from the sample, were used as input to the benchmarking program. The estimates were revised to (1) constrain the sum of the 12 monthly estimates to equal the annual estimates (benchmarks) derived for the years 1993 through 1997 (the computation of these annual estimates are described in the previous section) and (2) minimize differences between the month-to-month trends of the input and revised estimates. The previously published December 1992 estimate was also used to link the revised estimates to the previously published estimates. Also, prior to the implementation of the benchmarking operation, corrections were applied to estimates obtained directly from the sample for selected kinds of business.

A mathematical result of the revision methodology is that all input estimates following the last benchmark year (1997) are revised by multiplying these estimates by the ratio of the revised to input estimate for December 1997. Therefore, for specified sales series, a ratio of the December 1997 revised estimate to the December 1997 input estimate was computed. Input estimates for periods following December 1997 were multiplied by these constant ratios (called carry-forward factors) to derive revised sales estimates. The carry-forward factors remain unchanged until the next benchmarking.

### Monthly Inventories

For December 1992 through May 1999, end-of-month inventory estimates, computed directly from the sample on a non-LIFO (last-in, first-out) basis, were used as input to the benchmarking program. The estimates were revised

<sup>1</sup>Estimates for SIC 515 were not adjusted to census levels. The estimates were derived from the annual surveys. The section entitled, "Classification Differences Between The Monthly Survey and The 1992 and 1997 Censuses of Wholesale Trade" discusses why estimates were not obtained from census results.

<sup>2</sup>The inventory estimates for the years 1992 and 1997 were computed by multiplying the inventories/sales ratios obtained from the annual surveys by the census sales for these years. Census inventory estimates do not reflect inventories of auxiliary and central administrative offices of merchant wholesalers.

<sup>3</sup>The purchase estimates for the years 1992 and 1997 were computed by multiplying the purchases/sales ratios obtained from the annual surveys by the census sales for these years.

to (1) equate the December or end-of-year inventory estimates, for 1993 through 1997 to the estimates derived from the annual surveys (the computation of these annual estimates are described in the prior section entitled, Annual Estimates) and (2) minimize differences between month-to-month trends of the input and revised estimates. The previously published December 1992 estimate was also a benchmark which linked the revised estimates to the previously published estimates. Also, prior to the implementation of the benchmarking operation, corrections were applied to estimates obtained directly from the sample for selected kinds of business.

Revised estimates subsequent to December 1997 were derived by multiplying the input estimates by the ratio of the December 1997 revised to the December 1997 input inventory estimates. This ratio is the carry-forward factor for inventory estimates and remains unchanged for all series until the next benchmarking.

The table shown below compares the unadjusted sales and inventory estimates prior to revision at the merchant wholesalers total, durable, and nondurable levels to the revised estimates for 1998:

#### **Revision of Sales and Inventories: 1998**

(Revisions to detailed kinds of business are not shown in this table)

Kind of business	Sales (millions of dollars)			End-of-year inventories (millions of dollars)		
	After revision	Before revision	Percent difference	After revision	Before revision	Percent difference
Merchant whole- salers, total . . .	2,535,008	2,561,448	-1.0	287,997	287,683	0.1
Durable goods, total . . . . .	1,359,989	1,357,477	0.2	184,769	184,613	0.1
Nondurable goods, total . . .	1,175,019	1,203,971	-2.4	103,228	103,070	0.2

#### **UNPUBLISHED DATA**

Sales and inventory estimates for four-digit wholesale trade categories are not included in this publication because their sampling variability may be too high, making them potentially misleading. Upon written request, for a nominal fee the Census Bureau will release these estimates for individual use, though not for publication.

#### **SAMPLE DESIGN AND ESTIMATION PROCEDURES**

##### **INTRODUCTION**

The U.S. Census Bureau produces the *Annual Benchmark Report for Wholesale Trade* to provide national estimates of

- annual sales and
- end-of-year inventories

by merchant wholesale establishments by kind of business. The Bureau uses these more accurate annual estimates to revise the previously published estimates of monthly sales and end-of-month inventories.

We develop the sales and inventory estimates in this report from a probability sample that represents employer firms of all sizes and kinds of businesses that are merchant wholesalers throughout the nation. The use of a probability sample allows us to evaluate the sampling variability of the estimates.

#### **SAMPLE DESIGN**

##### **Sampling Frame**

The sampling frame for the Monthly Wholesale Trade Survey (MWTS) and the Annual Trade Survey (ATS) has two types of sampling units represented — Employer Identification Numbers (EINs) and large, multiple-establishment firms. Both sampling units represent clusters of one or more establishments owned or controlled by the same firm. All of the information used to create these sampling units was extracted from establishment records contained on the Census Bureau's Standard Statistical Establishment List (SSEL) as updated to December 31, 1994. The next few paragraphs give details about the SSEL; the distinction between firms, EINs, and establishments; and the construction of the sampling units used in the sample selection. Though important, they are not essential to understanding the basic sample design and readers may continue to the Stratification, Sampling Rates, and Allocation section.

The SSEL is a multi-relational database that contains a record for each establishment with employees. The establishment is the smallest entity represented on the SSEL. An establishment is a single physical location where business transactions take place and where payroll and employment records are kept. Groups of one or more establishments under common ownership or control are firms. A singleunit firm owns or operates only one establishment, whereas a multiunit firm owns or operates two or more establishments. The treatment of establishments on the SSEL differs according to whether the establishment is part of a multiunit or singleunit firm. In particular, the structure of an establishment's primary identifier on the SSEL differs depending on whether it is owned by a singleunit firm or by a multiunit firm.

A singleunit firm's primary identifier is its Employer Identification Number (EIN). The Internal Revenue Service (IRS) issues the EIN and the firm uses it as an identifier to report social security payments for its employees under the Federal Insurance Contributions Act (FICA). The same act requires all employer firms to use EINs. Because single-unit firms have only one establishment, there is a one-to-one relationship between the firm and the EIN. Thus the firm, the EIN, and the establishment all reference the same physical location and all three terms can be used interchangeably and unambiguously when referring to single establishment firms.

For multiunit firms however, a different structure connects an employer firm with its establishments via the EIN.

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When reading the following, it may help to keep in mind the analogy of a filing cabinet (firm) composed of many drawers (EINs) each containing several files (establishments).

Essentially a multiunit firm is associated with a cluster of one or more EINs and EINs are associated with two or more establishments. Each firm is associated with at least one EIN and only one firm can use a given EIN. However, one firm may have several EINs. Similarly, there is a one-to-many relationship between EINs and establishments. Each EIN can be associated with many establishments but each establishment is associated with only one EIN. Because of the possibility of one-to-many relationships, we must distinguish between the firm, its EINs, and its establishments. The firm that owns or controls a multiunit establishment is identified on the SSEL by way of the establishment's primary identifier.

A multiunit establishment's primary identifier consists of a unique combination of an alpha number and a plant number. The alpha number identifies the firm and the plant number identifies the establishment within the firm. All establishments owned or controlled by the same firm have the same alpha number. Different firms have different alpha numbers and different establishments within the same firm have different plant numbers. The Census Bureau assigns both the alpha number to the firm and the plant numbers to the establishments based on the results of the quinquennial economic censuses and the annual Company Organization Surveys.

To create the sampling frame, we extracted the records for all establishments that have a Standard Industrial Classification (SIC) that falls in the Wholesale Trade area as defined in the 1987 *Standard Industrial Classification Manual* and are classified as merchant wholesale. For these establishments, we extracted sales (or receipts), payroll, employment, inventory, name and address information, as well as primary identifiers and, for multiunit establishments, associated EINs. We summarize the economic data of multiunit establishments to an EIN level by tabulating the establishment data for all wholesale establishments associated with the same EIN. Similarly we summarize to a firm level by tabulating the establishment data for all establishments associated with the same alpha number. These are the sampling units created from multi-unit establishments. No aggregation is necessary to put singleunit establishment information on an EIN basis or a firm basis. Thus, the sampling units created for singleunit firms simultaneously represent establishment, EIN, and firm information. In summary, the sampling frame is a complex amalgam of establishments, EINs, and firms.

### **Stratification, Sampling Rates, and Allocation**

The primary stratification of the frame is by kind-of-business group based on the detail required for this publication. We further stratify the sampling units within kind of business groups (substratify) by a measure of size

related to their sales. To reduce the variance of the estimates, the largest sampling units are selected "with certainty." This means they are sure to be selected and will represent only themselves (i.e., have a selection probability of one and a sampling weight of one). Within each kind of business stratum a substratum boundary (or cutoff) that divides the certainty units from the noncertainty units is determined. We based these cutoffs on a statistical analysis of data from the 1992 Census of Wholesale Trade. Accordingly, these values are on a 1992 sales (or inventory) basis. We also used this analysis to set sampling rates needed to achieve specified sampling variability objectives for sales (or inventory) estimates for different kind-of-business groups. Note that we computed sampling rates using data from the 1992 Census, the actual sample size was determined by applying these sampling rates to the sampling frame constructed from the 1994 SSEL. We then allocated the sample optimally based on the number of sampling units and standard deviation of the units' measures of size. The allocation is optimal in the sense that it achieves the minimum variance for a fixed sample size.

### **Sample Selection**

The first step in the sample selection identified certainty firms. If a firm had total merchant wholesale sales or inventories (for 1994 adjusted to a 1992 basis) greater than the corresponding certainty cutoff for its major kind of business, the firm was selected into the sample with certainty. In this case, the firm is considered the sampling unit. This has important consequences when the firm adds establishments. If a firm was selected with certainty and had more than one establishment at the time of sampling, any new establishments that the firm acquires, even if under new or different EINs, are included in the sample with certainty. If a singleunit firm was selected with certainty only future establishments associated with that firm are included with certainty; any new EINs that might later be associated with that firm are subjected to sampling as births (see below ).

All firms not selected with certainty were subjected to sampling on an EIN basis. If a firm had more than one EIN, we treated each of its EINs as a separate sampling unit. To be eligible for the initial sampling, an EIN had to have non-zero payroll in 1994. The EINs were stratified according to their major kind of business and their estimated sales (on a 1992 basis). Within each noncertainty stratum, a simple random sample of EINs was selected. We then assigned the selected cases to one of two groups. One group is canvassed for both the monthly and annual surveys, the other only for the annual survey. The sampling rates for the EINs selected in the sample for the monthly survey varied between 1 in 1 and 1 in 754.

### **Sample Maintenance**

Periodically, we update the sample to represent EINs issued since the last sample selection. For all EIN "births,"

a two-phase selection procedure is used. EIN births are new EINs recently assigned by the IRS, on the latest available IRS mailing list for FICA taxpayers, and assigned a kind-of-business classification (if possible) by the Social Security Administration (SSA). In the first phase, births are stratified by kind of business and size (expected employment or quarterly payroll). A relatively large sample is drawn and canvassed to obtain a more reliable measure of size, consisting of sales in two recent months, and a more detailed kind-of-business code, if needed.

Using this more reliable information, the selected births from the first phase are subjected to probability-proportional-to-size sampling with overall probabilities equivalent to those used in drawing the initial sample from the 1994 SSEL. Because of the lag in reporting births to the IRS, and the time needed to accomplish the two-phase birth-selection procedure, births are added to the sample about nine months or more after they begin operation.

The processing of the EIN births differs between the monthly and annual surveys. For the MWTS, the EIN births selected in a quarter are added into the monthly survey during the quarter. Because births are not represented in the monthly sample until they go through the two-phase selection procedure, an interim procedure is used to account for births during the period between the onset of activity and the time of birth selection. This consists of imputing data for all selected cases that go out of business but are still on the IRS mailing list.

For the ATS, the births that are selected in the quarterly birth-selection procedure in November of the annual survey year are included in the main mailing of the ATS questionnaires in January of the following year. To better represent all EIN births in the annual survey year, and specifically to account for the coverage lag in the birth-selection procedure, we add births to the annual sample that are selected in February, May, and August of the year following the survey year. We mail survey forms to these births in June and August to supplement the main annual survey mailing.

To be eligible for the sample canvass and tabulation in a given month, a wholesale EIN selected in the noncertainty sampling operations must meet both of the following requirements:

- It must be on the latest available IRS mailing list for FICA taxpayers from the previous quarter.
- It must have been selected from either the SSEL or the file of employer births.

EINs selected into the sample with certainty are not dropped from canvass and tabulation if they are no longer on the IRS mailing list. Rather, the business that used the EIN is contacted, and if a successor EIN is found, it is added to the survey. This is a more stringent quality control used for these larger businesses.

## Monthly Estimation Procedures

All sampling units selected with certainty (weight equal to 1.0) are canvassed each month to obtain current month data. As noted previously, two samples of noncertainty (weight greater than 1.0) EINs were selected. Each month, all certainty sampling units and half of all selected noncertainty sampling units are asked to report their current month data. (The other half of the noncertainty units are canvassed only for the annual survey.) The estimates are based on the summation of weighted data (reported and imputed). The weight for a given sampling unit is the inverse of its probability of selection.

## Annual Estimation Procedures

The sales, purchases, end-of-year inventories, and gross margin estimates published in this report are derived from the Annual Trade Survey. The estimates are based on the summation of weighted data (reported and imputed) for all selected sampling units that meet the tabulation criteria given in the **Sample Maintenance** section shown above. The weight for a given sampling unit is the inverse of its probability of selection.

The estimates of total inventory published in this report are on a non-LIFO basis. For those firms that value inventory on a LIFO (last-in, first-out) basis, the LIFO reserve amount is added to the LIFO value to get inventory on a non-LIFO basis. In the Annual Trade Survey, sampling units that used a LIFO cost basis for all or part of their inventory were asked to report LIFO reserves.

The gross margin data represent sales less the cost of goods sold (see Definition of Terms) and are developed from the summation of weighted sales, inventories, and purchases reported by the sampling units in the Annual Trade Survey.

For 1997, we adjusted the inventories and purchases by multiplying the 1997 ATS estimates by the ratio of 1997 *preliminary* census sales to 1997 ATS sales. Therefore, 1997 purchases and inventories are comparable to the 1997 *preliminary* census sales shown in this report.

## RELIABILITY OF THE ESTIMATES

An estimate based on a sample survey potentially contains two types of errors - sampling and nonsampling. Sampling error occurs because characteristics differ among sampling units and because only a subset of the entire population is measured in a sample survey. Non-sampling error encompasses all other factors that contribute to the total error of a sample survey estimate. The accuracy of a survey result may be affected by these two types of errors.

Sampling and nonsampling errors are often measured by the quantities, bias and variance. The *bias* of an estimator of an unknown population value is the difference, averaged over all possible samples of the same size and

design, between the estimator and the unknown population value. Any systematic error or inaccuracy that affects all samples in a similar way will cause the resulting estimates to be biased. *Variance* is the squared difference, averaged over all possible samples of the same size and design, between an estimator and its average value.

Descriptions of sampling variability and nonsampling error for the Monthly Wholesale Trade Survey and the Annual Trade Survey are provided in the following sections.

## Measures of Sampling Variability

Because the estimates are based on a sample, exact agreement with the results that would be obtained from a complete enumeration of wholesale firms on the sampling frame is not expected. However, because each firm represented on the sampling frame has a known probability of being selected into the sample, it is possible to estimate the sampling variability of the survey estimates.

The particular sample used in this survey is one of a large number of samples of the same size that could have been selected using the same design. If all possible samples had been surveyed, under the same conditions, an estimate of an unknown population value could have been obtained from each sample. These samples give rise to a distribution of estimates for the unknown population value. A statistical measure of the variability among these estimates is the standard error, which can be approximated from any one sample. The *standard error* is defined as the square root of the variance. The *coefficient of variation* (or relative standard error) of an estimate is the standard error of the estimate divided by the estimate. Note that measures of sampling variability, such as the standard error or coefficient of variation, are estimated from the sample and are also subject to sampling variability. (Technically, we should refer to the *estimated* standard error or the *estimated* coefficient of variation of an *estimator*. However, for the sake of brevity, we have omitted this detail.) It is important to note that the standard error and coefficient of variation only measure sampling variability. They do not capture any systematic biases in the estimates. Table 3 provides the minimum, maximum, and median coefficients of variation for monthly sales and end-of-month inventories for each kind of business. The ranges and medians shown in Table 3 are based on *final* MWTS data for May 1998 through April 1999. Coefficients of variation for annual sales, end-of-year inventories, purchases, gross margin, and gross margin-to-sales ratios for each kind of business are provided in Table 4. These coefficients of variation are based on 1997 ATS data, adjusted to *preliminary* results of the 1997 Economic Census. (All coefficients of variation are expressed as percents.)

The estimate from a particular sample and the approximate standard error associated with the estimate can be used to construct a confidence interval. A *confidence interval* is a range about a given estimator that has a specified

probability of containing the estimator's corresponding, unknown population value. If, for each possible sample, an estimate of an unknown population value and its approximate standard error were obtained, then:

1. For approximately 90 percent of the possible samples, the interval from 1.65 standard errors below to 1.65 standard errors above the estimate would include the unknown population value.
2. For approximately 95 percent of the possible samples, the interval from two standard errors below to two standard errors above the estimate would include the unknown population value.

## Nonsampling Errors

Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate and may also occur in censuses. It is often helpful to think of nonsampling error as arising from deficiencies or mistakes in the survey process. In the MWTS and the ATS, nonsampling error can be attributed to many sources: (1) inability to obtain information about all firms in the sample, (2) response errors, (3) differences in the interpretation of the questions, (4) mistakes in coding or keying the data obtained, and (5) other errors of collection, response, coverage, and processing. Although no direct measurement of the potential biases due to nonsampling error has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize its influence.

A potential source of bias in the estimates is due to imputing data for nonrespondents and for data which fail edit. (Imputation is the process of replacing a missing value by a predicted value obtained from an appropriate model for nonresponse.) Across all kinds of business combined, in any given month imputed sales data amounts to about 31 percent of the total monthly wholesale sales estimate and about 32 percent of the end-of-month inventory estimate. For the annual survey, imputed data amounts to about 12 percent of the total wholesale sales estimate, about 13 percent of the total end-of-year inventory estimate, and nearly 14 percent of the total purchases estimate.

## ADJUSTMENT FOR SEASONAL AND TRADING-DAY VARIATION

We use the X-11 ARIMA Seasonal Adjustment Program from Statistics Canada to derive seasonal factors for adjusting data. The program derives seasonal factors by using the method described in the X-11 Variant of the Census Method II Seasonal Adjustment Program, U.S. Census Bureau Technical Paper No. 15, Revised 1967. We do not use any forecasting options from the X-11 ARIMA program. This program has more accurate computations and

diagnostics than the previously used program. Trading-day factors for adjusting sales estimates were also derived from the X-11 program. Seasonal adjustment of estimates is an approximation based on current and past experiences.

Therefore, the adjustments could become less precise if current competitive pressures, changes in economic conditions, and other elements introduce significant changes in seasonal and trading-day patterns. A description of the trading-day adjustment procedure may be found in *Estimating Trading-Day Variation in Monthly Economic Time Series*, U.S. Census Bureau Technical Paper No. 12, 1965. Additional details concerning the seasonal adjustment procedure may be obtained from the Chief, Service Sector Statistics Division, U.S. Census Bureau, Washington, DC 20233. Concurrent seasonal adjustment uses all available unadjusted estimates (including the latest preliminary estimates) as input to the X-11 program. When unadjusted *preliminary* and final estimates become available, all estimates are used as input to the X-11 program and new factors are applied to the *preliminary* and final estimates (1 month before the *preliminary*) and to the previous year estimates that correspond to the *preliminary* month.

## SCOPE OF SURVEY

Wholesale trade, as defined by Major Groups 50 and 51 of the *1987 Standard Industrial Classification Manual* as covered in the 1992 Census of Wholesale Trade, includes establishments or places of business primarily engaged in selling merchandise to retailers; to industrial, commercial, institutional, farm, or professional business users; to other wholesalers; or acting as agents or brokers in buying merchandise for or selling merchandise to such persons or companies.

The principal types of establishments included in wholesale trade are:

- Merchant wholesalers who take title to the goods they sell, such as wholesale merchants or jobbers, industrial distributors, voluntary group wholesalers, exporters, importers, cash-and-carry wholesalers, drop shippers, major distributors, retailer cooperative warehouses, terminal elevators, and cooperative buying associations.
- Sales branches and sales offices (but not retail stores) maintained by domestic manufacturing or mining enterprises apart from their plants or mines for the purpose of marketing their products.
- Agents, merchandise or commodity brokers, and commission merchants.

This survey is limited to merchant wholesalers (described in type 1 above). Merchant wholesalers constitute the major portion of the broad field of wholesale trade. All kinds of business in which merchant wholesalers operate are represented in this survey. Also included in

this survey are sales and inventories of central administrative offices and auxiliaries of merchant wholesale establishments and manufacturers' sales branches of ferrous metals service centers with inventories, as part of SIC 505.

## Kind-of-Business Classifications

The durable goods group includes establishments primarily engaged in the distribution of goods classified in SIC Major Group 50. This group includes all establishments classified in the following categories:

SIC	Kind of Business
501	Motor Vehicles and Automotive Parts and Supplies
502	Furniture and Home furnishings
503	Lumber and Other Construction Materials
504	Professional and Commercial Equipment and Supplies
505	Metals and Minerals, except Petroleum
506	Electrical Goods
507	Hardware, Plumbing, and Heating Equipment and Supplies
508	Machinery, Equipment, and Supplies
509	Miscellaneous Durable Goods

For SIC 505, the estimated inventories include merchant wholesalers' inventories as well as those of sales branches of ferrous metals service centers.

The nondurable goods group includes establishments primarily engaged in the distribution of goods classified in SIC Major Group 51. This group includes all establishments classified in the following categories:

SIC	Kind of Business
511	Paper and Paper Products
512	Drugs, Drug Proprietaries, and Druggists' Sundries
513	Apparel, Piece Goods, and Notions
514	Groceries and Related Products
515	Farm-Product Raw Materials
516	Chemicals and Allied Products
517	Petroleum and Petroleum Products
518	Beer, Wine, and Distilled Alcoholic Beverages
519	Miscellaneous Nondurable Goods

## DEFINITION OF TERMS

**Sales.** Sales include:

1. merchandise sold for cash or credit at wholesale and retail by establishments primarily engaged in merchant wholesale trade;
2. receipts from customers for rental or leasing of equipment, instruments, tools, etc.;
3. receipts for delivery, installation, alteration, maintenance, repair, storage, and other services; and

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4. gasoline, liquor, tobacco, and other excise taxes which are paid by the manufacturer and passed along to the wholesaler.

Sales are net after deductions for refunds and allowances for merchandise returned by customers. Sales which are made on an agency basis for others are included as gross sales. Direct shipments on orders from wholesalers are also included in sales. Total sales do not include non-operating income from such sources as investments, rental or sale of real estate, etc.

Sales exclude sales taxes and excise taxes collected directly from customers and paid directly to a local, State, or Federal tax agency. Also excluded are receipts from customers for carrying or other credit charges.

**Inventories.** Inventories represent stocks on a non-LIFO basis (firms that valued inventory on a LIFO basis included the values of LIFO reserve in the total inventory levels) of merchandise owned by merchant wholesalers at the end of the month regardless of location except for goods held outside the United States. Goods held on consignment and items not held for sale such as fixtures, equipment, and supplies are not included. Goods held in foreign trade zones in the United States are also included. Methods of valuation may vary according to the accounting practices of the firm.

**Inventories/Sales Ratios.** The inventories/sales ratios are derived by dividing the dollar value of inventories by the dollar value of sales. No adjustment is made in these ratios for the markup in sales which may vary from trade to trade.

**Purchases.** Purchases represent the total cost of merchandise acquired for resale during the year, whether or not payment for the merchandise was made during the year. Purchases are net of returns, allowances, and trade and cash discounts but include payments by the wholesaler for freight, insurance, import duties, and credit and other charges. Purchases exclude the cost of containers, wrapping, packaging, and selling supplies. Also excluded are liquor and tobacco tax stamps.

**Cost of Goods Sold.** Cost of goods sold are not shown in this report but can be derived by subtracting gross margin data from annual sales data. They represent the total cost of merchandise sold for cash or credit at wholesale

and retail by establishments primarily engaged in merchant wholesale trade. Cost of goods sold is calculated by adding all purchases of merchandise (net of returns, allowances, and discounts but including charges for freight, insurance, etc.) during the year to the beginning year inventories, then deducting the end-of-year inventories from the total. Firms were instructed to exclude the cost of containers, wrapping, packaging, and selling supplies in the cost of purchases. Purchase of tax stamps and payments of excise taxes often included by tobacco and liquor wholesalers in their purchases were excluded from cost of goods sold.

**Gross Margin.** Gross margin represents sales less cost of goods sold. Gross margin is equivalent to the cost of all materials (as distinguished from goods to be resold) and services provided in merchant wholesale establishments whether provided by the merchant wholesaling firm itself or purchased by it from others. To the extent that it includes cost of contract work done by others on materials of the merchant wholesale firms, gross margin includes an element of value added by manufacturing.

#### **CLASSIFICATION DIFFERENCES BETWEEN THE MONTHLY SURVEY AND THE 1992 AND 1997 CENSUSES OF WHOLESALE TRADE**

Establishments in the census that are classified in the Farm-Product Raw Materials group (SIC 515) include, in their sales, products purchased and transferred to other company establishments. In the monthly survey, intercompany transfers are not included in sales. Because of these differences, the 1992 and 1997 sales for the SIC were obtained from the 1992 and 1997 Annual Trade Surveys, instead of from the 1992 and 1997 Censuses of Wholesale Trade.

Inventories were not benchmarked to the census levels, because the Census of Wholesale Trade does not include inventories of auxiliary and central administrative offices of merchant wholesale establishments. These offices, however, are included in the monthly survey. The end-of-year inventory estimates for 1992 and 1997 were computed by multiplying the inventories-to-sales ratios obtained from the annual surveys by the census sales for these years. Annual purchases for 1992 and 1997 were also derived by multiplying the purchases-to-sales ratios obtained from the annual surveys by the census sales for these years.

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## Detailed Tables

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**Table 1. Revised Adjusted and Unadjusted Estimates of Monthly Sales, Inventories, and Inventories/Sales Ratios of Merchant Wholesalers: January 1989 to May 1999**

[Sales and inventories in millions of dollars]

SIC code	Kind of business	1999											
		Jan.	Feb.	Mar.	Apr.	May <sup>p</sup>	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>ADJUSTED<sup>1</sup></b>													
	Sales, total . . . . .	<b>213,597</b>	<b>216,138</b>	<b>219,595</b>	<b>219,921</b>	<b>223,217</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>50</b>	Durable goods . . . . .	<b>114,452</b>	<b>117,213</b>	<b>118,233</b>	<b>118,111</b>	<b>119,943</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
501	Motor vehicles & auto. equip. . . . .	17,381	18,697	18,026	18,565	18,572	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
502	Furniture & home furnishings . . . . .	3,958	4,052	4,033	4,004	4,056	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
503	Lumber & other construction mat. . . . .	7,958	8,148	8,376	8,450	8,627	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
504	Professional and commercial equip. & supplies . . . . .	21,177	21,421	22,060	21,762	22,477	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
505	Metals & minerals, ex. petroleum . . . . .	7,891	7,833	7,640	7,625	7,568	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
506	Electrical goods . . . . .	17,874	18,523	18,792	18,865	18,994	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
507	Hardware, plumbing & heating equipment . . . . .	6,702	6,792	6,991	6,873	6,995	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
508	Machinery, equipment & supplies . . . . .	19,805	19,668	20,265	19,976	20,166	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
509	Miscellaneous durable goods . . . . .	11,706	12,079	12,050	11,991	12,488	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>99,145</b>	<b>98,925</b>	<b>101,362</b>	<b>101,810</b>	<b>103,274</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
511	Paper & paper products . . . . .	7,897	7,871	7,709	7,860	8,119	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	11,199	11,451	11,670	11,975	12,182	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
513	Apparel, piece goods & notions . . . . .	7,249	7,169	8,045	7,558	7,838	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
514	Groceries & related products . . . . .	28,951	29,076	29,530	29,862	30,156	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
515	Farm-product raw materials . . . . .	8,246	8,477	8,489	8,119	8,509	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
516	Chemicals & allied products . . . . .	4,455	4,195	4,360	4,271	4,250	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
517	Petroleum & petroleum products . . . . .	9,749	9,441	10,622	11,422	11,811	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
518	Beer, wine, & distilled beverages . . . . .	5,452	5,445	5,395	5,455	5,429	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
519	Miscellaneous nondurable goods . . . . .	15,947	15,800	15,542	15,288	14,980	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Inventories, total . . . . .	<b>286,698</b>	<b>288,638</b>	<b>289,360</b>	<b>289,636</b>	<b>290,667</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>50</b>	<b>Durable goods . . . . .</b>	<b>187,929</b>	<b>188,922</b>	<b>189,309</b>	<b>188,637</b>	<b>189,782</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
501	Motor vehicles & auto. equip. . . . .	26,560	26,681	27,224	27,211	27,583	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
502	Furniture & home furnishings . . . . .	5,967	6,028	5,973	5,925	5,936	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
503	Lumber & other construction mat. . . . .	8,188	8,177	8,387	8,530	8,707	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
504	Professional and commercial equip. & supplies . . . . .	25,553	26,275	25,679	24,985	25,268	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
505	Metals & minerals, ex. petroleum . . . . .	13,785	13,358	12,839	12,868	12,904	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
506	Electrical goods . . . . .	26,405	26,593	26,343	26,053	26,547	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
507	Hardware, plumbing & heating equipment . . . . .	13,454	13,288	13,310	13,247	13,206	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
508	Machinery, equipment & supplies . . . . .	50,364	50,756	51,307	51,770	51,459	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
509	Miscellaneous durable goods . . . . .	17,653	17,766	18,247	18,048	18,172	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>98,769</b>	<b>99,716</b>	<b>100,051</b>	<b>100,999</b>	<b>100,885</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
511	Paper & paper products . . . . .	9,331	9,406	9,422	9,621	9,693	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	15,148	15,361	15,715	16,396	16,940	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
513	Apparel, piece goods & notions . . . . .	12,231	12,705	12,249	11,981	11,846	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
514	Groceries & related products . . . . .	16,992	17,431	17,749	18,093	18,076	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
515	Farm-product raw materials . . . . .	10,622	10,457	10,727	11,028	11,093	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
516	Chemicals & allied products . . . . .	4,994	4,966	4,883	4,852	4,786	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
517	Petroleum & petroleum products . . . . .	3,880	3,955	3,981	3,965	3,906	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
518	Beer, wine, & distilled beverages . . . . .	6,114	6,329	6,460	6,460	6,759	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
519	Miscellaneous nondurable goods . . . . .	19,457	19,106	18,865	18,603	17,786	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Inventories/sales ratios, total . . . . .	<b>1.34</b>	<b>1.34</b>	<b>1.32</b>	<b>1.32</b>	<b>1.30</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>50</b>	<b>Durable goods . . . . .</b>	<b>1.64</b>	<b>1.61</b>	<b>1.60</b>	<b>1.60</b>	<b>1.58</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
501	Motor vehicles & auto. equip. . . . .	1.53	1.43	1.51	1.47	1.49	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
502	Furniture & home furnishings . . . . .	1.51	1.49	1.48	1.48	1.46	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
503	Lumber & other construction mat. . . . .	1.03	1.00	1.00	1.01	1.01	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
504	Professional and commercial equip. & supplies . . . . .	1.21	1.23	1.16	1.15	1.12	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
505	Metals & minerals, ex. petroleum . . . . .	1.75	1.71	1.68	1.69	1.71	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
506	Electrical goods . . . . .	1.48	1.44	1.40	1.38	1.40	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
507	Hardware, plumbing & heating equipment . . . . .	2.01	1.96	1.90	1.93	1.89	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
508	Machinery, equipment & supplies . . . . .	2.54	2.58	2.53	2.59	2.55	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
509	Miscellaneous durable goods . . . . .	1.51	1.47	1.51	1.51	1.46	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>1.00</b>	<b>1.01</b>	<b>0.99</b>	<b>0.99</b>	<b>0.98</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
511	Paper & paper products . . . . .	1.18	1.20	1.22	1.22	1.19	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	1.35	1.34	1.35	1.37	1.39	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
513	Apparel, piece goods & notions . . . . .	1.69	1.77	1.52	1.59	1.51	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
514	Groceries & related products . . . . .	0.59	0.60	0.60	0.61	0.60	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
515	Farm-product raw materials . . . . .	1.29	1.23	1.26	1.36	1.30	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
516	Chemicals & allied products . . . . .	1.12	1.18	1.12	1.14	1.13	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
517	Petroleum & petroleum products . . . . .	0.40	0.42	0.37	0.35	0.33	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
518	Beer, wine, & distilled beverages . . . . .	1.12	1.16	1.20	1.18	1.24	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
519	Miscellaneous nondurable goods . . . . .	1.22	1.21	1.21	1.22	1.19	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)

<sup>p</sup> Preliminary estimates.

(NA) Not applicable.

<sup>1</sup>Data adjusted for seasonal variations and, in the case of sales, also for trading-day differences.

Note: Cumulative seasonally adjusted sales estimates are not tabulated.

**Table 1. Revised Adjusted and Unadjusted Estimates of Monthly Sales, Inventories, and Inventories/Sales Ratios of Merchant Wholesalers: January 1989 to May 1999—Con.**

[Sales and inventories in millions of dollars]

SIC code	Kind of business	1999												Total
		Jan.	Feb.	Mar.	Apr.	May <sup>b</sup>	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
<b>UNADJUSTED<sup>1</sup></b>														
	Sales, total . . . . .	193,060	197,392	235,563	222,461	221,751	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>50</b>	<b>Durable goods . . . . .</b>	<b>101,027</b>	<b>106,109</b>	<b>127,911</b>	<b>119,046</b>	<b>117,248</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
501	Motor vehicles & auto. equip. . . . .	15,087	17,145	20,189	19,419	18,646	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
502	Furniture & home furnishings . . . . .	3,420	3,606	4,227	4,068	3,934	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
503	Lumber & other construction mat. . . . .	6,502	6,861	8,518	8,611	8,825	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
504	Professional and commercial equip. & supplies . . . . .	19,144	19,450	24,310	21,240	21,061	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
505	Metals & minerals, ex. petroleum . . . . .	7,496	7,426	8,465	7,861	7,439	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
506	Electrical goods . . . . .	15,908	16,819	20,126	18,242	18,101	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
507	Hardware, plumbing & heating equipment . . . . .	5,878	5,889	6,893	6,811	6,862	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
508	Machinery, equipment & supplies . . . . .	17,607	18,114	22,555	21,235	20,529	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
509	Miscellaneous durable goods . . . . .	9,985	10,799	12,628	11,559	11,851	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>92,033</b>	<b>91,283</b>	<b>107,652</b>	<b>103,415</b>	<b>104,503</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
511	Paper & paper products . . . . .	7,763	7,470	8,195	7,829	7,567	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	11,154	10,661	12,487	12,095	11,585	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
513	Apparel, piece goods & notions . . . . .	6,575	7,384	9,099	7,256	6,513	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
514	Groceries & related products . . . . .	26,953	26,372	31,066	29,384	31,151	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
515	Farm-product raw materials . . . . .	8,526	8,138	9,049	7,656	8,254	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
516	Chemicals & allied products . . . . .	4,170	3,931	4,652	4,356	4,361	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
517	Petroleum & petroleum products . . . . .	9,622	8,865	10,834	11,742	11,717	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
518	Beer, wine, & distilled beverages . . . . .	4,018	4,416	5,454	5,455	5,559	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
519	Miscellaneous nondurable goods . . . . .	13,252	14,046	16,816	17,642	17,796	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
	Inventories, total . . . . .	291,370	291,882	291,319	291,668	288,889	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
<b>50</b>	<b>Durable goods . . . . .</b>	<b>187,058</b>	<b>189,116</b>	<b>189,560</b>	<b>190,271</b>	<b>191,613</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
501	Motor vehicles & auto. equip. . . . .	26,932	27,722	27,687	27,619	27,776	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
502	Furniture & home furnishings . . . . .	5,860	5,883	5,877	5,771	5,924	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
503	Lumber & other construction mat. . . . .	8,008	8,161	8,563	8,769	8,942	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
504	Professional and commercial equip. & supplies . . . . .	25,706	26,012	25,653	25,160	25,217	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
505	Metals & minerals, ex. petroleum . . . . .	13,895	13,411	12,980	12,932	12,981	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
506	Electrical goods . . . . .	26,247	26,540	25,948	25,949	26,786	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
507	Hardware, plumbing & heating equipment . . . . .	13,239	13,301	13,456	13,525	13,523	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
508	Machinery, equipment & supplies . . . . .	49,659	50,604	51,769	52,805	52,437	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
509	Miscellaneous durable goods . . . . .	17,512	17,482	17,627	17,741	18,027	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>104,312</b>	<b>102,766</b>	<b>101,759</b>	<b>101,397</b>	<b>97,276</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
511	Paper & paper products . . . . .	9,499	9,387	9,469	9,698	9,519	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	16,269	15,576	15,778	16,494	16,195	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
513	Apparel, piece goods & notions . . . . .	12,745	12,807	11,784	11,526	11,526	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
514	Groceries & related products . . . . .	16,941	17,013	17,430	17,858	17,931	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
515	Farm-product raw materials . . . . .	13,617	12,506	11,703	10,929	9,141	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
516	Chemicals & allied products . . . . .	5,004	5,016	4,912	4,862	4,843	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
517	Petroleum & petroleum products . . . . .	3,919	3,884	3,862	3,933	3,902	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
518	Beer, wine, & distilled beverages . . . . .	5,674	6,038	6,447	6,415	6,522	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
519	Miscellaneous nondurable goods . . . . .	20,644	20,539	20,374	19,682	17,697	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
	Inventories/sales ratios, total . . . . .	1.51	1.48	1.24	1.31	1.30	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
<b>50</b>	<b>Durable goods . . . . .</b>	<b>1.85</b>	<b>1.78</b>	<b>1.48</b>	<b>1.60</b>	<b>1.63</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
501	Motor vehicles & auto. equip. . . . .	1.79	1.62	1.37	1.42	1.49	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
502	Furniture & home furnishings . . . . .	1.71	1.63	1.39	1.42	1.51	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
503	Lumber & other construction mat. . . . .	1.23	1.19	1.01	1.02	1.01	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
504	Professional and commercial equip. & supplies . . . . .	1.34	1.34	1.06	1.18	1.20	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
505	Metals & minerals, ex. petroleum . . . . .	1.85	1.81	1.53	1.65	1.74	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
506	Electrical goods . . . . .	1.65	1.58	1.29	1.42	1.48	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
507	Hardware, plumbing & heating equipment . . . . .	2.25	2.26	1.95	1.99	1.97	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
508	Machinery, equipment & supplies . . . . .	2.82	2.79	2.30	2.49	2.55	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
509	Miscellaneous durable goods . . . . .	1.75	1.62	1.40	1.53	1.52	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
<b>51</b>	<b>Nondurable goods . . . . .</b>	<b>1.13</b>	<b>1.13</b>	<b>0.95</b>	<b>0.98</b>	<b>0.93</b>	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
511	Paper & paper products . . . . .	1.22	1.26	1.16	1.24	1.26	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
512	Drugs, drug proprietaries and druggists' sundries . . . . .	1.46	1.46	1.26	1.36	1.40	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
513	Apparel, piece goods & notions . . . . .	1.94	1.73	1.30	1.59	1.77	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
514	Groceries & related products . . . . .	0.63	0.65	0.56	0.61	0.58	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
515	Farm-product raw materials . . . . .	1.60	1.54	1.29	1.43	1.11	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
516	Chemicals & allied products . . . . .	1.20	1.28	1.06	1.12	1.11	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
517	Petroleum & petroleum products . . . . .	0.41	0.44	0.36	0.33	0.33	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
518	Beer, wine, & distilled beverages . . . . .	1.41	1.37	1.18	1.18	1.17	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)
519	Miscellaneous nondurable goods . . . . .	1.56	1.46	1.21	1.12	0.99	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(X)

<sup>a</sup> Preliminary estimates.

(X) Cumulative data are not applicable for inventories or inventories/sales ratios.

(NA) Not applicable.

<sup>1</sup> Data not adjusted for seasonal variations or trading-day differences.











































**Table 3. Estimated Coefficients of Variation of Monthly Sales and End-of-Month Inventories**

[In percent]

SIC code	Kind of business	Sales		Inventories	
		Range	Median	Range	Median
	<b>Merchant wholesalers, total .....</b>	<b>0.9-1.5</b>	<b>1.1</b>	<b>1.1-1.6</b>	<b>1.3</b>
<b>50</b>	<b>Durable goods .....</b>	<b>1.7-2.2</b>	<b>1.9</b>	<b>2.1-2.7</b>	<b>2.3</b>
501	Motor vehicles & auto. equip .....	3.9-4.9	4.2	4.5-5.6	4.8
502	Furniture & home furnishings .....	5.9-6.9	6.4	7.4-8.5	7.7
503	Lumber & other construction materials .....	4.7-5.7	5.2	5.0-6.0	5.4
504	Professional and commercial equip. & supplies .....	4.6-7.2	5.5	5.9-7.5	7.0
505	Metals & minerals, ex. petroleum .....	4.2-5.3	4.9	8.6-11.0	9.9
506	Electrical goods .....	5.3-7.5	5.8	6.2-7.5	6.6
507	Hardware, plumbing & heating equipment .....	4.7-6.1	5.6	5.6-7.1	6.2
508	Machinery, equipment & supplies .....	5.7-7.1	6.3	5.9-6.8	6.5
509	Miscellaneous durable goods .....	5.6-6.9	6.4	7.7-9.7	8.5
<b>51</b>	<b>Nondurable goods .....</b>	<b>1.7-2.1</b>	<b>1.9</b>	<b>2.0-2.6</b>	<b>2.2</b>
511	Paper & paper products .....	4.2-5.4	4.9	4.3-5.5	5.1
512	Drugs, drug proprietaries and druggists' sundries .....	5.9-7.2	6.3	4.3-5.4	4.8
513	Apparel, piece goods & notions .....	4.5-5.8	5.0	6.5-8.0	7.5
514	Groceries & related products .....	2.8-3.3	3.0	4.5-6.3	5.1
515	Farm-product raw materials .....	4.9-7.3	6.6	7.1-9.3	8.3
516	Chemicals & allied products .....	4.9-6.1	5.6	5.5-7.0	6.2
517	Petroleum & petroleum products .....	5.4-7.6	6.4	13.2-18.4	14.7
518	Beer, wine & distilled beverages .....	5.5-7.2	6.4	8.4-9.5	8.7
519	Miscellaneous nondurable goods .....	5.5-6.9	6.3	6.1-8.4	7.3

Note: The Coefficients of variation shown in Table 3 are based on data unadjusted for seasonal variations or trading-day differences. The ranges and medians are based on final Monthly Wholesale Trade Survey estimates for May 1998 through April 1999.

**Table 4. Estimated Coefficients of Variation of Annual Sales, End-of-Year Inventories, Purchases, Gross Margins, and Gross Margin/Sales Ratios**

[In percent Dollar Volume Estimates]

SIC code	Kind of business	Sales	Inventories	Purchases	Gross margin	Gross margin/sales ratios
	<b>Merchant wholesalers, total .....</b>	<b>0.1</b>	<b>1.1</b>	<b>0.2</b>	<b>0.9</b>	<b>0.9</b>
<b>50</b>	<b>Durable goods .....</b>	<b>0.0</b>	<b>1.5</b>	<b>0.2</b>	<b>1.1</b>	<b>1.1</b>
501	Motor vehicles & auto. equip .....	0.0	1.7	0.5	2.3	2.3
502	Furniture & home furnishings .....	0.0	4.1	1.3	2.6	2.6
503	Lumber & other construction materials .....	0.0	4.6	0.8	2.8	2.9
504	Professional and commercial equip. & supplies .....	0.0	3.3	0.7	2.2	2.4
505	Metals & minerals, ex. petroleum .....	0.0	3.4	0.8	2.8	2.9
506	Electrical goods .....	0.0	3.2	0.7	2.9	2.9
507	Hardware, plumbing & heating equipment .....	0.0	2.4	0.8	2.3	2.3
508	Machinery, equipment & supplies .....	0.0	3.9	1.4	3.3	3.5
509	Miscellaneous durable goods .....	0.0	7.0	0.8	3.1	3.1
<b>51</b>	<b>Nondurable goods .....</b>	<b>0.4</b>	<b>1.6</b>	<b>0.5</b>	<b>1.4</b>	<b>1.3</b>
511	Paper & paper products .....	0.0	3.5	0.7	2.1	2.1
512	Drugs, drug proprietaries and druggists' sundries .....	0.0	2.5	1.0	6.9	7.0
513	Apparel, piece goods & notions .....	0.0	3.2	1.3	3.1	3.2
514	Groceries & related products .....	0.0	3.0	0.7	3.8	3.7
515	Farm-product raw materials .....	4.0	5.4	4.0	6.8	4.9
516	Chemicals & allied products .....	0.0	3.5	1.0	3.3	3.4
517	Petroleum & petroleum products .....	0.0	4.4	0.5	5.1	5.3
518	Beer, wine & distilled beverages .....	0.0	4.1	0.6	2.1	2.2
519	Miscellaneous nondurable goods .....	0.0	7.0	1.1	4.8	5.1

Note: The 1997 annual sales totals for SIC 515 are estimates computed from the 1997 Annual Trade Survey while the other SIC's are preliminary results of the 1997 Economic Census and therefore, have no sampling variance. Thus, only the estimated coefficients of variation for SIC 515 and the two total aggregates (Nondurable goods and Merchant wholesalers, total) are provided in Table 4. Other annual estimates have been adjusted to 1997 Economic Census data.